

Groundwater Monitoring for USTs

Information about Leak Detection for Underground Storage Tank (UST) Systems

WHAT IS IT?

- ▶ Groundwater monitoring measures for free product on the groundwater table near the UST system.
- ▶ Monitoring wells near the tank and/or product piping are checked continuously or at least once a month for product floating on the water table.

WILL YOU BE IN COMPLIANCE?

- ▶ When installed and operated according to the manufacturer's specifications, groundwater monitoring meets the state leak detection requirements for new and existing UST systems.
- ▶ Operation of the monitoring device at least once each month fulfills the requirements for the life of the tank.
- ▶ Groundwater monitoring can also be used to detect leaks from piping.

WILL IT WORK AT YOUR SITE?

- ▶ Groundwater can be no deeper than 20 feet below the ground surface.
- ▶ Groundwater monitoring works best if:
 1. Monitoring wells are installed through the tank backfill, and
 2. No previous releases exist that can falsely indicate a current release.
- ▶ The material characteristics of the site are assessed to ensure groundwater monitoring is an appropriate method.

WHAT ARE THE REGULATORY REQUIREMENTS?

- ▶ Groundwater monitoring can only be used if the stored substance:
 1. Does not easily mix with water, and
 2. Floats on top of water.

- ▶ The backfill material between the well and the UST system must consist of sand, gravel or other coarse materials.
- ▶ Monitoring wells must be properly designed and secured so the well does not provide a conduit for contaminants from another source.
- ▶ The wells must be clearly marked.
- ▶ Monitoring devices must be able to detect at least one-eighth inch of free product.

HOW DOES THE GROUNDWATER MONITORING METHOD WORK?

- ▶ Groundwater monitoring involves the use of permanent monitoring wells placed close to the UST system. The wells are checked at least monthly for the presence of product that has leaked from the UST system and is floating on the groundwater surface.
- ▶ The two main components of a groundwater monitoring system are the monitoring well, typically two to four inches in diameter, and the monitoring device.
- ▶ Monitoring devices may be permanently installed in the well for automatic, continuous detection of leaked product.
- ▶ Monitoring devices are also available in manual form. Manual devices range from a bailer, used to collect a liquid sample for visual inspection, to an electronic device that is lowered into the well and can detect the presence of leaked product. Manual devices must be operated at least once a month.
- ▶ Before installation, a site assessment must be performed to identify the soil type, groundwater depth and flow direction, and the general site lithology to determine if groundwater monitoring is appropriate at the site.
- ▶ The number of monitoring wells and their placement is very important. Only a trained professional can properly design and construct an effective monitoring well system. A minimum of two wells is

recommended for a single tank. Three or more wells are recommended for two or more tanks.

- ▶ If the monthly report from the monitoring device reads “fail”, then report a SUSPECTED RELEASE within 24 hours to the UST call line at 1 (800) 234-5677, Ext: 771-4303 or (602) 771-4303. However, if you have reason to believe the monitoring device is defective then immediately repair, re-calibrate or replace the defective equipment and perform an additional test. If the system passes the test, then a SUSPECTED RELEASE report is not needed.

MAINTENANCE

- ▶ Physical Monitoring must be done once every month and kept at the facility in a log book for inspector review during an inspection.
- ▶ Automatic Monitors must be maintained, calibrated, operated, and tested for operability per manufacturer’s instructions. In addition, the monitoring alarm must alert the attendant of the facility, so that appropriate actions may be taken.

REQUIRED DOCUMENTATION

- ▶ Keep all records of maintenance, calibrations and testing for review by ADEQ inspectors.

CHECKLIST

- ☐ Maintained monthly monitoring records for one year.
- ☐ Maintained results of monitoring device calibration, maintenance and repair.
- ☐ Properly marked and secured monitoring wells.

FOR MORE INFORMATION CONTACT:

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(602) 771-4303
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Website: www.azdeq.gov

In the event of any discrepancy between this information and the Arizona Revised Statutes or Arizona Administrative Code, the statutes or rules shall take precedence.